

The casual turn: politics, play and mapping

Sam Hind (University of Warwick, UK) s.m.hind@warwick.ac.uk

Alex Gekker (Utrecht University, NL) a.gekker@uu.nl

City streets are a mesh of software and materiality. Whilst paper maps struggle to capture this dynamism, digital maps are more adept at capturing, storing, tracking and visualizing the vast array of interactions. In this paper we will look at the city map and its power from the level of the driver, building on an expansive literature on the socio-technical nature of automobility (Dodge and Kitchin, 2007; Featherstone, 2004; Sheller, 2007). We employ ‘casual politicking’ (Gekker, 2012) as a theoretical concept that offers new ways of exploring the power relations of maps in objects such as mobile phones and their interfaces. In doing so, we offer a second conceptualization; of ludic interaction. Our understanding of maps as micro-political focuses on the quotidian and playful rather than on the macro-ideological and abstract (2005, 2004). We exemplify this throughout with reference to a social navigation application called Waze.

We have two reasons to suggest this approach. Firstly, a narrowing of which objects, devices and things may be considered as possessing political agency (Latour, 2005; Marres and Lezaun, 2011), and secondly, a funnelling of what constitutes the notion of ‘acting politically’ (Bennett, 2010, 2004; Marres, 2012). We argue that both restrict thinking about how maps can be involved in everyday, material, political participation. Investigating how mapping technologies play a role in signalling hazards, affecting vehicle movement and altering traffic flow (Brown and Laurier, 2012; Dodge and Kitchin, 2007) helps us to grasp the politics of automobility (Cresswell, 2010). Their deployment reinvents the automobile as the quintessential object of technological desire (Urry, 2004), in the face of a rising tide of environmental ethics. But in order to draw these conclusions we need to introduce the notion of *playful-casual engagement*, the entry point into a world of micro-politics and the technological affordances (Gibson, 1977; Norman, 1988) of the mapping interface.

From Ludic to Casual

The ‘ludic turn’ in recent scholarly work (Raessens, 2009) suggests playful attitudes are an organizing component of many contemporary human cultural activities, and underscores the need to approach digital interfaces as *being played with*, and especially, as being played *casually and daily*. Interfaces are not simplistic windows into an isolated realm (cf. Manovich, 2001). They do not embody a ‘coherent, closed, abstract aesthetic world’ (Galloway, 2012) but instead take shape through a tapestry of coagulated actions, where the interface is an enabler and facilitator of involvement. As Galloway (2012) suggests, ‘we can be sure that the “outside”, or the social, [is] woven... into the very fabric of the aesthetic’. Thus conversely we can also state that the aesthetic world of the digital is a constituent of social life too.

These developments have largely been absent from academic debates on collaborative mapping. And whilst the ludic turn has brought an increased focus on the nuanced nature of

technological engagement, more specific changes are taking place. One is the ‘gamification’ (Bogost, 2011; Deterding et al., 2011; Mosca, 2012) of non-game situations, encounters or rituals. The adoption of game-like mechanics, rules, modes and structures for everyday tasks is now widespread, although only recently taken up in the field of digital mapping. Would-be OpenStreetMap (OSM) editors can now use the Kort app on their phones or desktops to participate in geo-located missions to collect ‘koin’ and badges for data improvements. However, digital map editing has historically lacked formal game elements such as rules, tokens, points, badges, levels, challenges or leader-boards (Zichermann and Cunningham, 2011).

A second, complimentary shift is the growing casualness of game-playing itself (Juul, 2009), with some (Abt, 1987; Ritterfeld et al., 2009) distinguishing casual games from ‘hardcore’ games that build on previous ‘gaming capital’ (Consalvo, 2007) and acquire play conventions (Pargman and Jakobsson, 2008). Analytically, these serve as distinctions between subject matter, user interaction, game mechanics and context. The ubiquitous Angry Birds, as well as popular puzzle and strategy titles such as Minecraft and Plague Inc. serve as examples of the former category. Just as digital maps have allowed us to capture, track and store the records of quotidian interactions and expressions, so games have become embedded within, and arguably transformed the perceived monotony of life, constituting a gamification of these rituals (Kort as map editing *game*) and a casualness of the game-playing itself (Kort as a *smartphone optimized* editing platform). The fact that many games make use of maps as their playing boards, whether imagined or utilizing locational data (Lammes, 2011), only underscores how digital mapping and gaming share common interface characteristics. Stig Hjarvard (2008) suggests that the most prominent features of contemporary mediascapes is their influence on shared lived worlds and the ways they subdue these to a certain ‘media logic’. In our case, this logic is heavily grounded in the characteristics of the devices through which maps are regularly deployed.

The adoption of touch-screen interfaces embodies a drastic turn in the nature of digital game-playing. This has been attributed to the intuitive and ludic nature of capacitive sensing technologies (Verhoeff, 2009) and the possibility of tentative, probing and proximal interaction with mobile devices (Paterson, 2007). This differs significantly from the operation of desktop computers or handheld consoles, where peripheral hardware attachments (mouse, joystick, and keyboard) or built-in components (control pad, trigger, and arrow keys) offer little or minimal user feedback. Even motion controllers (Wii Remote, PS Move, and MS Kinect) are phenomenologically closer to touch-screen interfaces than previous iterations of the gaming controller, due to the enhanced sensorial capabilities they share (Fuchs, 2012). These kinds of interfaces introduce a plethora of new tactile strokes, sweeps and taps; arguably an altogether more delicate suite of actions compared to the metonymic and calculative clicks of a computer mouse or a keyboard. Users are expected to feel their way around the new technology and experience the continuity, fluidity and dynamism of the touch-screen. It is these interactions that constitute engagement with the digital map.

The touch-screen interface is a ‘thin, but essential and visible membrane’ (Verhoeff, 2012) at once inviting seemingly inconsequential moves whilst actualizing wider cognitive, cultural and micro-political potentialities. The gamification of non-game moments and the rising casualness of game-playing are dependent upon this precept. The power dynamics that

arise from such interaction are similarly transparent and innocuous, but nonetheless shape and direct the actions of user in quotidian space. To illustrate, next we will examine the navigation app Waze.

Prepare for the Unexpected or Outsmarting Traffic, Together

Unlike standard GPS-enabled software, the Waze city is never static. Regular locative software puts the driver in the centre of an idealized environment created primarily for him/her, but Waze populates the map around a constellation of fellow users or 'Wazers', represented by customisable icons.

In 2012, Waze had a global community of 36 million drivers, sharing a total of 90 million traffic reports, and driving a collective 6 billion miles. 65,000 map editors also made 500 million map edits, reflecting 1.7 million on-the-ground changes (Waze, 2013a). OSM by comparison, had just fewer than 100,000 editors in 2012 making 800 million edits (OpenStreetMap, 2013). But it is not necessarily easy to make a clean split between editor and user, producer and consumer. Waze users contribute primarily through driving. When (Craib, 2000) observes that maps are '[t]he most oppressive and dangerous of all cultural artefacts' due to their 'naturalized and presumably commonsensical' status this is a notable development in the merging of map creation and map use. The map is not a static flat inscription but a 'mutable mobile' (Kitchin and Dodge, 2007; Lammes, 2008). It is a slippery, iterative object facilitated by the relative immutability of the wider navigational assemblage. Interaction with the Waze application is not restricted to a rather simplistic dichotomy of (passive) driver and (active) editor, but instead enrolled into a fluid process of making and re-making.

Moreover, the map itself does not serve as a representation of the road ahead. It exists on the same ontological plane as the road surface itself. *Road hazards, vehicle flow and map issues* – three dimensions of the Waze driving experience – all exist on the same active platform. We argue that GPS navigation is a performative act that does not relegate the map to a secondary level underneath the 'real driving world' of asphalt, traffic lights and junctions (Chesher, 2012). Game mechanics are central to how our primary example encourages this performance with the mobile interface, reconfigures the act of driving, and contributes to our understanding of casual politics. Collective navigation depends on this individualized codification. For each performed action Waze users receive points, creating an exogenous motivation to participate in this collaborative road mapping. Additional bonuses are available for more complex actions, such as detailed descriptions, photo evidence and road closure as well as for 'continuous play' as first time reports, weekend notifications or driving landmark distances.

Reporting Hazards

One of the main features of Waze is the ability to identify *hazards*. Spotting potential dangers for other Wazers is not just a handy addition to an otherwise social tool however, but a potentially valuable driving aid routed in game mechanics. These notifications mitigate against the disruption caused by three types of hazard: *obstructions, distractions* and *anticipatory impediments*. Each impacts on driving and re-makes the digital map. Obstructions provide direct dangers (debris, barriers), distractions are indirect and usually

visual disturbances with the potential to become driving dangers (live animals, bad weather), whilst anticipatory impediments affect the ability of the driver to make upcoming judgments (stationary vehicles, missing road signs). These driving hazards produce loose interpretations. Their existence is precarious, slipping in and out of categorization depending on seriousness. Nevertheless, once these decisions are made the hazard is placed on the map for other users, shown as geo-located 'pop-up' messages. This codification is vital for collective map use. Crowdsourced navigation thus depends on this individualized codification. For each road report Waze users receive +6 points. Additional bonuses are available for more detailed descriptions, photo evidence, first time reports and weekend notifications.

Altering Flow

In addition users can also collectively affect vehicle movement, direction and flow by closing existing roads, verifying nascent routes and opening up new ones. Although traditional satellite navigation systems are capable of keeping users up-to-date with road information that adds to an already existing map (TomTom's Live Traffic etc.), Waze is unique in its crowdsourcing of wholesale map recalibrations. Users have to be live drivers to make changes. Navigational assistance for other drivers is therefore grounded in the performative act of driving (or 'Wazing' as it is known), and alterations cannot be made either by desktop or without GPS and data signal¹. This interaction between the existing (imperfect) map as noticed through the Waze interface and the unaligned driving world as seen through the vehicle windscreen provides the catalyst for contribution. Road closures can be attributed to an on-road hazard (car crash, fallen tree), a construction job (road re-surfacing, underground repairs) or a local event (marathon, street party, protest march). Users make the selection by tapping the appropriate direction of the closure on the Waze driving map, and 'no entry' symbols notify others of the diversion. All active drivers have their paths recalculated accordingly and the map is updated to reflect the changes. Wazers can also 'thank' the initial user reporting the issue by pressing a single button. These tactile interactions, which equalize the touch of the phone to report with the touch of the steering wheel to change course are the sort of embryonic cultural conventions fostering this auto-ludification and are central to understanding new digital maps.

Routes that have been imported into the Waze database or created in the Waze Map Editor can also be verified by drivers in a process called 'road munching'. In an unverified state they show as sequential dots as opposed to a continuous line. Thus the name is derived from the style in which the user's avatar changes to a Pacman-type character and 'munches the dots' on the unverified 'Pacman-road' turning it into a verified and drivable route (Waze, 2013c). Similarly, Wazers can also open up new roads through 'road recording'. In only a few clicks Waze is able to record the GPS signal from the driver's smartphone and *bring new driving worlds into being* directly through the application. In comparison, OSM editors are required to use applications such as OSMTracker or a traditional GPS receiver to

¹ Desktop edits can be made through the Waze Map Editor, but this is also dependent upon the locations driven in the past 3-4 months (Waze, 2013b).

record new tracks, and edits still have to be uploaded through JOSM, Potlach or another OSM editor. Waze users are able to map new roads live and on the move².

Wazing, road munching and road recording are actions populating, verifying and building a live road map through collaborative driving performance. On this evidence Waze is more than simply an addition or 'aid' to the driving experience. It is a direct agent in the act of driving itself. The power is at the fingertips and foot pedals – quite literally – of these roving driver-editors. The flow of urban drivers is manipulated by the on-screen and on-road actions of the Waze user.

Flagging Issues

Users can also flag map issues. The Waze application allows users to report map errors whilst driving, with reports linked directly to the location of the error via GPS. These performative edits are based on the habitual know-how of drivers. Users can describe the nature of the issue via a text box or can select a common issue ranging from forbidden turns, incorrect junctions, missing bridges or overpasses, to wrong driving directions (one/two-way), missing exits or full expanses of missing road.

Unlike 'outside' hazards, the map issues function progressively updates the application itself. Rather than dedicating time and energy to large swathes of track uploads, feature labelling or otherwise difficult to fathom road permissions, users can clean up map errors as they drive. Although missing roads can be live-mapped by Wazers desiring to travel the unpaved route, the map issue function allows otherwise busy drivers to flag up potential errors for others to investigate. Rewards range from between +50 and +500 points depending on prolificacy, offering drivers a reason to alert others to errors they might otherwise ignore. This 'gameful design' (2011), masks utility as fun and intrinsically rewarding. The app also facilitates and encourages mundane interaction, as witnessed by one of the authors when a Wazer gained more than 300 'thanks' simply for wishing nearby commuters to have a nice week. Error reporting becomes a welcome distraction rather than a chore. The practice of driving is radically re-designed when such a social navigation app is deployed.

Each of the above exemplifies a new kind of automobile tactic, a new way of attending to the disturbances, disruptions and hazards in the driving world. Another suite of everyday actions played out by drivers on the city streets, forcing radical alterations to the contemporary driving experience.

Mapping Futures

In this paper we suggest that digital maps exert casual, performative power. We contend that they exist on the same plane as the 'outside' social world contributing on an equal level to the everyday actions of the map user. Such casual engagement, we argue, is encountered through the affordances of the digital map interface. Game mechanics are the catalyst for multi-touch gestures, re-routing decision-making through the interface. This new

² Users are still prompted to add metadata via a desktop editor.

understanding conceives of digital maps as casual and playful, standing in contrast to previous understandings of a map moored in macro-political conceptualizations.

Politics is no longer merely represented in the inert object (the automobile as inscribed status item or fetishistic commodity), or exerted through high-level, deliberative, political assemblages (the map as state power tool or planning document), but is performed through the digital interface casually, habitually and playfully. Waze engages its user through a digital map, prompting them to *report hazards, alter flows and flag issues*. Each dynamic affects the act of driving, as well as the constellation of other drivers. It brings new driving-worlds and 'driver-car' assemblages into being (Dant, 2004). Thus it simultaneously becomes an actor in political behaviours on the road and underlines the act of driving as political. 'Gamification' is but a new dynamic. To understand these nascent processes we require a different hybrid view on the nature of mapping, driving and playing. 'Outsmarting traffic, together' will perhaps become the automobile future but first we must refine our analytical focus in order to attend to the cartographic present.

Acknowledgements

The research leading to these results has received funding from the European Research Council under the European Community's Seventh Framework Programme (FP7/2007-2013) / ERC Grant agreement n°283464.

References

- Abt, C.C., 1987. Serious games. University Press of America, Lanham, MD.
- Bennett, J., 2004. The Force of Things Steps toward an Ecology of Matter. *Political Theory* 32, 347–372.
- Bennett, J., 2010. Vibrant matter: a political ecology of things. Duke University Press, Durham.
- Bogost, I., 2011. Persuasive Games: Exploitationware [WWW Document]. URL http://www.gamasutra.com/view/feature/6366/persuasive_games_exploitationware.php/ (accessed 3.15.13).
- Brown, B., Laurier, E., 2012. The normal natural troubles of driving with GPS. *ACM Press*, p. 1621.
- Chesher, C., 2012. Navigating sociotechnical spaces: Comparing computer games and sat navs as digital spatial media. *Convergence: The International Journal of Research into New Media Technologies* 18, 315–330.
- Consalvo, M., 2007. Cheating: Gaining Advantage in Videogames. MIT Press, Cambridge, MA.
- Craib, R.B., 2000. Cartography and Power in the Conquest and Creation of New Spain. *Latin American Research Review* 35, 7–36.
- Cresswell, T., 2010. Towards a politics of mobility. *Environment and Planning D: Society and Space* 28, 17–31.
- Dant, T., 2004. The Driver-car. *Theory, Culture & Society* 21, 61–79.
- Deterding, S., Sicart, M., Nacke, L., O'Hara, K., Dixon, D., 2011. Gamification. Using game-design elements in non-gaming contexts, in: *Proceedings of the 2011 Annual Conference Extended Abstracts on Human Factors in Computing Systems*. ACM, New York, pp. 2425–2428.

- Dodge, M., Kitchin, R., 2007. The automatic management of drivers and driving spaces. *Geoforum* 38, 264–275.
- Featherstone, M., 2004. Automobilities: An Introduction. *Theory, Culture & Society* 21, 1–24.
- Fuchs, M., 2012. Ludic interfaces. Driver and product of gamification. *G | A | M | E Games as Art, Media, Entertainment* 1.
- Galloway, A.R., 2012. *The interface effect*. Polity Press, Cambridge, UK; Malden, MA.
- Gekker, A., 2012. *Gamocracy: Political Communication in the Age of Play* (Unpublished master thesis).
- Gibson, J., 1977. The concept of affordances, in: Shaw, R., Bransford, J. (Eds.), *Perceiving, Acting, and Knowing: Toward an Ecological Psychology*. Lawrence Erlbaum Associates, Hillsdale, pp. 62–82.
- Hjarvard, S., 2008. The mediatization of society. A theory of the media as agents of social and cultural change. *Nordicom review: Nordic research on media & communication* 29, 105–134.
- Juul, Jesper. 2009. *A Casual Revolution: Reinventing Video Games and Their Players*. MIT press.
- Kitchin, R., Dodge, M., 2007. Rethinking maps. *Progress in Human Geography* 31, 331–344.
- Lammes, S., 2008. Spatial Regimes of the Digital Playground: Cultural Functions of Spatial Practices in Computer Games. *Space and Culture* 11, 260–272.
- Lammes, S., 2011. The map as playground: Location- based games as cartographical practices., in: *Think Design Play: The Fifth International Conference of the Digital Research Association*. Hilversum.
- Latour, B., 2004. Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern. *Critical Inquiry* 30, 225–248.
- Latour, B., 2005. From realpolitik to dingpolitik or how to make things public, in: *Making Things Public: Atmospheres of Democracy*. MIT Press, Cambridge, MA.
- Manovich, L., 2001. *The language of new media*, 1st MIT Press pbk. ed. ed, Leonardo. MIT Press, Cambridge, Mass.
- Marres, N., 2012. *Material participation: technology, the environment and everyday publics*. Palgrave Macmillan, Houndmills, Basingstoke, Hampshire ; New York.
- Marres, N., Lezaun, J., 2011. Materials and devices of the public: an introduction. *Economy and Society* 40, 489–509.
- Mosca, I., 2012. +10! Gamification and deGamification. *G | A | M | E Games as Art, Media, Entertainment* 1.
- Norman, D.A., 1988. *The Psychology of Everyday Things*. Basic Books, New York.
- OpenStreetMap, 2013. Editor usage stats - OpenStreetMap Wiki [WWW Document]. OpenStreetMap. URL http://wiki.openstreetmap.org/wiki/Editor_usage_stats (accessed 3.15.13).
- Pargman, D., Jakobsson, P., 2008. Do you believe in magic? Computer games in everyday life. *European Journal of Cultural Studies* 11, 225–244.
- Paterson, M., 2007. *The senses of touch: haptics, affects, and technologies*. Berg, Oxford ; New York.
- Raessens, J., 2009. Serious games from an apparatus perspective, in: Boomen, M. van den, Lammes, S., Lehmann, A.-S. (Eds.), *Digital Material: Tracing New Media in Everyday Life and Technology*. Amsterdam University Press, pp. 21–34.

- Ritterfeld, U., Cody, M.J., Vorderer, P. (Eds.), 2009. *Serious games: mechanisms and effects*. Routledge, New York.
- Sheller, M., 2007. Bodies, cybercars and the mundane incorporation of automated mobilities. *Social & Cultural Geography* 8, 175–197.
- Urry, J., 2004. The “System” of Automobility. *Theory, Culture & Society* 21, 25–39.
- Verhoeff, N., 2009. Grasping the screen: Towards a conceptualization of touch, mobility and multiplicity, in: *Digital Material: Tracing New Media in Everyday Life and Technology, MediaMatters*. Amsterdam University Press, Amsterdam, pp. 209–222.
- Verhoeff, N., 2012. Mobile screens: the visual regime of navigation, *MediaMatters*. Amsterdam University Press, Amsterdam.
- Waze, 2013a. 500 Million Map Edits in 2012 | Waze Blog [WWW Document]. URL <http://www.waze.com/blog/500-million-map-edits-in-2012/> (accessed 3.15.13).
- Waze, 2013b. Waze Map Editor [WWW Document]. URL http://www.waze.com/wiki/index.php/Waze_Map_Editor (accessed 3.15.13).
- Waze, 2013c. FAQ [WWW Document]. URL <http://www.waze.com/wiki/index.php/FAQ> (accessed 3.15.13).
- Zichermann, G., Cunningham, C., 2011. *Gamification by design: implementing game mechanics in web and mobile apps*, 1st. ed. ed. O’Reilly Media, Sebastopol, Calif.